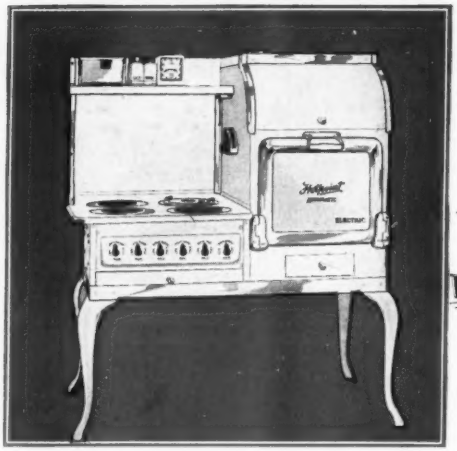
DEALER EDITION

Electricity on the Farm

RECEIVED
1 0 1929
U.S. Department of Agriculture

August
1929

This Issue—141,000 Copies
(Farmer and Dealer Editions)



"I never in my wildest dreams thought I could have anything like it"

Ask your electric company or write us for literature on the complete line of Hotpoint automatic electric ranges. They are the choice of the vast majority because of the Hotpoint CALROD electric heating element which is practically indestructible, their faster speed, greater economy and many other superiorities.

"I never, even in my wildest dreams, thought I could have anything like my Hotpoint automatic electric range. I can put my dinner in the oven at any time I see fit, go to town or to help a sick neighbor, or berrying, or anywhere I want to and forget my dinner; and it is all ready to put on the table when the hungry men come in from the fields. And oh, so clean; no smoke or oil or dirt of any kind—just a twist of the wrist and the heat is on. And the best part of all is that we are actually saving money by getting the domestic electric utility rate."

(From Electricity on the Farm, June.)

Hotpoint

EDISON ELECTRIC APPLIANCE CO., Inc.
5622 W. Taylor St. Chicago, Illinois
A GENERAL ELECTRIC ORGANIZATION

World's Largest Manufacturer of Electric Ranges and Household Electric Heating Appliances

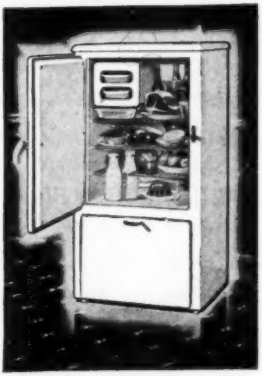
THE NEW **KELVINATOR FOUR**

IS THE YEAR'S GREATEST

VALUE IN ELECTRIC REFRIGERATION

$175

F. O. B. Detroit



Produced by the world's largest maker of refrigerating equipment, this New Kelvinator incorporates every modern, advanced feature found in larger and costlier Kelvinator models, with all of their proven reliability, their quality and their long life.

In size, adequate for the needs of a family of four or five—more than 8 square feet of shelf space. In durability, unapproached by refrigerators costing far more. Built of heavy Parkerized (rust-proof) steel, the cabinet will yield a long lifetime of service.

Best of all, the New Kelvinator Four is 100% automatic in operation. No regulation needed, either for fast freezing of ice cubes and desserts or for the maintenance of constant cold—well below 50 degrees in the food compartments.

See the New Kelvinator Four at your nearest Kelvinator dealer's and judge its value for yourself. *You may enjoy a New Kelvinator immediately for a small down payment. Balance on easy terms through Kelvinator's attractive ReDisCo monthly budget plan.*

KELVINATOR SALES CORPORATION, DETROIT, MICHIGAN
KELVINATOR OF CANADA, LIMITED, LONDON, ONTARIO
KELVINATOR LIMITED, LONDON, ENGLAND

THE RELIABLE

KELVINATOR

Electricity on the Farm

Vol. 2 AUGUST 1929 No. 8

We accept advertising only from concerns we believe to be absolutely reliable. Readers are requested to notify us promptly of any failure on the part of an advertiser to live up to the standards of service promised in these pages, whereupon we will immediately take suitable action.

CONTENTS

	Page
Editorial	9
Who Will Handle the Grain? by E. R. Meacham	10
Silo Filling With a Five Horsepower Motor, by A. B. Barfield	12
Slice Power Cost by Grinding Feed	14
Harnessing the Motor to the Silo Filler, by F. W. Duffee	15
Electricity, the Summer Servant of Coolness, by Ethel Morrison-Marsden	17
Hitching Up the Motor, by F. W. Duffee and V. B. Meacham	20
Making It Easy for the Youngster, by C. P. Wagner	23
Electrical Housekeeping, by Gail Meredith	26
Make the Most of Your Lights! by Laurene Littel	32
Cover Title Contest	35
What Our Readers Say	42

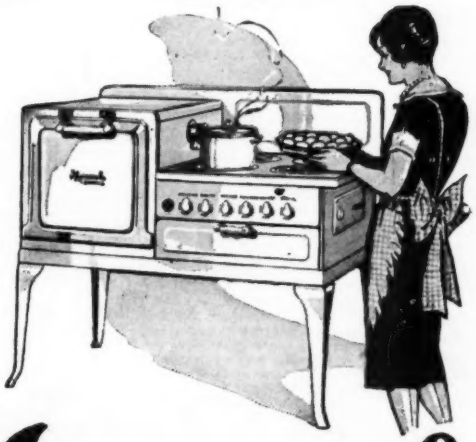
Issued Monthly by
CASE-SHEPPERD-MANN PUBLISHING CORP.
(Successors to Farm Light and Power Pub. Co.)
Editorial-Executive Offices, 225 W 34th St., New York
Western Office, 30 N. Michigan Ave., Chicago
KARL M. MANN, *President* I. H. CASE, *Vice-Pres. and Gen'l Mgr.*
FRED SHEPPERD, *Editor*
H. T. MURRAY, *Western Manager* K. H. GORHAM, *Advertising Manager*
Subscription price, 75 cents per year; single copies, 10 cents

Contents Copyrighted 1929 by Case-Shepperd-Mann Pub. Corp.

The Secret of Happier Cooks . . and Better Cooking

COOK by electricity . . . with a MONARCH Electric Range. That's the secret, as thousands of happy farm women have already discovered. You will prefer the MONARCH for its remarkable *speed* and economy . . . for its beautiful design and enameled body, in white, green or yellow. Also because you will find among its many models precisely the style that meets your particular requirements—perhaps one of the several models with built-in kitchen heater for coal and wood. May we send you a booklet showing them all? Write

MALLEABLE IRON RANGE CO.,
400 Lake Street - - Beaver Dam, Wis.



Monarch

ELECTRIC RANGE

The Old Water Bucket

Has Served — It's Purpose

FIG. 2354

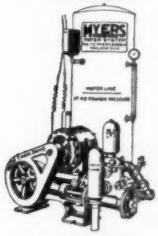


FIG. 2450

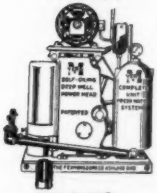
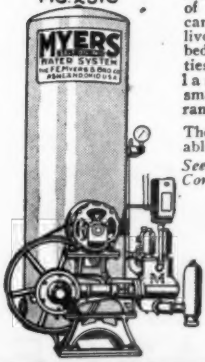


FIG. 2510



Once upon a time a "nice new water pail" was a fine gift for Mother!

AMERICAN farm women appreciate "new things" for the kitchen. But the water bucket—once a very useful article—is today practically *a symbol of servitude!* No matter how considerate and helpful Dad and the boys mean to be, the never-ending chore of lugging heavy pails of water from place to place falls far too often on Mother's already-burd e ned shoulders.

The majority of farm women carry many tons of water every year—in most cases a thoroughly needless task! Because, at relatively small cost, any farm can easily have an unfailing supply of fresh, running water—all over the house—in barns and feed lots—wherever water is required for thirsty animals, fire protection, sanitation, health, comfort and well-being.

MYERS
Self-Oiling Water Systems

They bring to your farm all the comfort and convenience of city water service. They can be depended upon to deliver fresh running water at bed-rock cost and in capacities to suit the largest farm, smallest place or ranch or estate.

Made for both deep and shallow wells—for operation by hand, wind, gas engine or electric current. MYERS Electric Water Systems are self-starting, self-stopping, self-oiling. They are thoroughly trustworthy and require no attention.

Take Off Your Hat to MYERS

The MYERS trade mark is your absolute warranty of dependable performance, highest quality and utmost responsibility.

See your MYERS dealer—or write direct for catalog. Correspondence invited from Church and School Officials.

THE F. E. MYERS & BRO. CO.

384 ORANGE ST.
ASHLAND, OHIO

Makers for over 50 years of Myers Pumps for Every Purpose, Hay Tools and Door Hangers

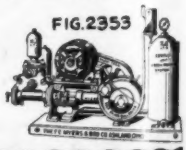
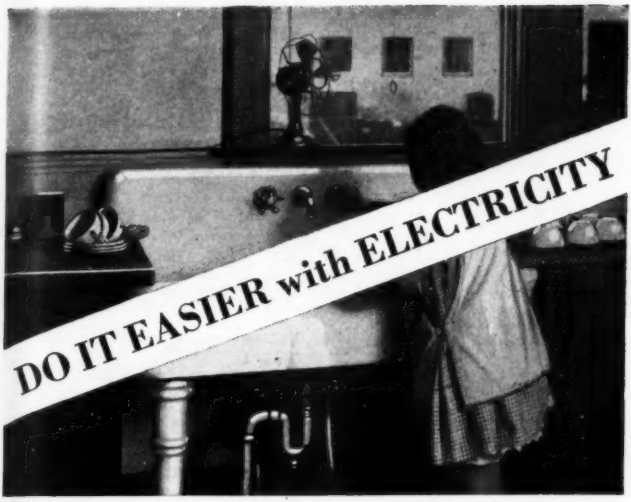


FIG. 2353



PLENTY of hot and cold running water at the turn of a tap. How much easier than the old way of pumping water — lugging it — and thawing out frozen pumps.

A Westinghouse Electric Motor will furnish cheap and unfailing power for an automatic water system. These motors are sturdy, steady, economical and require little attention. And a Westinghouse Electric Automatic Water Heater will add convenience to convenience, by providing you with water as hot as you want — without any attention from you.

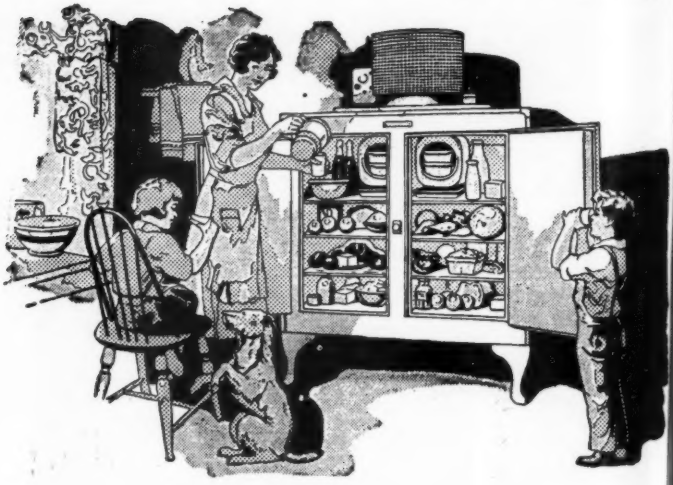
Use electricity and Westinghouse labor-saving appliances to take the drudgery out of milking, churning, sawing, washing, ironing, cleaning and cooking . . . and save your strength and time.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

Offices in all Principal Cities **Representatives Everywhere**

Electric motors, electric ranges, electric home appliances of all kinds . . . when they carry the Westinghouse trade-mark you know they are good for years and years of hard service.

Westinghouse



The Vanishing Ice House

Soon the winter task of cutting ice will be a thing of the past—and with it the unnecessary spoilage of food. For now, electricity fills every refrigeration need on the electrified farm.

The General Electric refrigerator is entirely automatic. It requires no attention, no oiling, and its constant, correct temperature safeguards food and keeps it fresh and wholesome. This is the latest electrical boon, which, with G-E MAZDA lamps, G-E motors, and other General Electric products, releases men and women on the farm from age-old burdens and drudgery.

If you are located on or near an electric power line, ask your power company for complete information concerning the possible uses of electricity on your farm.

Tune in on the General Electric Special Weekly Farm Program over G-E Stations WGY (Schenectady), KOA (Denver), KGO (Oakland). In addition, every Saturday evening at 8 P.M., Eastern Standard Time, the "General Electric Hour" is broadcast over a nation-wide chain.

95-631D

GENERAL ELECTRIC

General Electric Company, Schenectady, N. Y., Sales Offices in Principal Cities

Electricity on the Farm

Vol. 2 AUGUST, 1929 No. 8

A Chance to See For Yourself

One of the most valuable features at state fairs is the display of labor saving equipment. Such displays enable one to see for himself just what is on the market and to learn first hand in just what ways modern equipment can serve him. Conspicuous in increasing numbers at fairs during the past three or four years have been electrically operated appliances, both for farm chores and farm house work. Water systems, electric ranges, chore motors, and a great number of other labor savers are available for inspection.

It will pay you to study these displays, particularly from the angle of saving labor and giving comfort and contentment to those who must spend their lives on the farm. You will find the manufacturers' representatives well versed in the requirements of the modern farm, and they will gladly answer questions you may ask regarding the performance of their products.

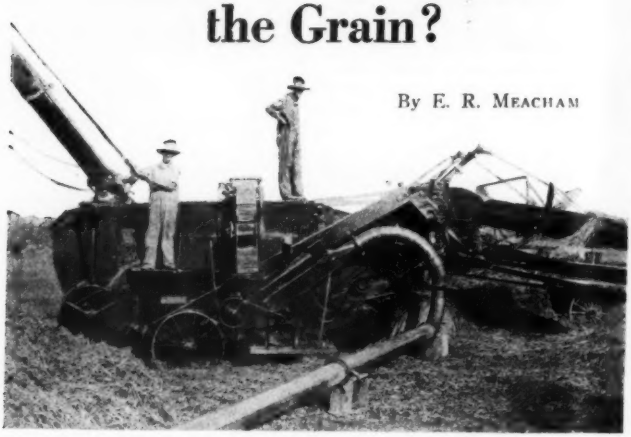
Of course it is important to have a line on the concerns behind these various appliances shown, and if the product is a new one, and if the manufacturer is unknown, it may pay to investigate before actually making purchases. Concerns which have displays year after year at the state fairs are usually pretty well established and their products may, as a rule, be fully depended upon.

It's always a safe move to get your power company's opinion prior to making purchases. Occasionally your county agent can serve you very dependably in this matter.

At any rate, plan on attending your State Fair and make it a point to bring the women and have them join you in making inspection of the electrical equipment displays. They are the best judge of the utility of appliances which are employed around the farm household.

Who Will Handle the Grain?

By E. R. MEACHAM



No men, horses, wagons, or sacks are needed to handle the grain from this machine. It blows it right to the bin.

WITH threshing in full swing throughout a large part of the country, keeping down the labor costs, avoiding a long season of changing work, and even finding enough help to do the job, become serious problems. Just as the self feeder and band cutter have reduced the men required at that end of the machine and the wind-stacker has cut down labor on the strawpile, so now machines are taking care of the threshed grain itself and greatly reducing the man labor that would otherwise be required to handle it. Various ways of applying power to this job have been used successfully.

Perhaps the first device to take the place of grain handlers around the threshing machine was an attachment for the separator. On their Cornfalfa Farms near Waukesha, Wisconsin, the Swartz brothers have been using this method of grain handling for a number of years. It has saved so much man power that they have made it a regular part of their service to some 40 neighbors whose grain they thresh.

Their device consists of a blower driven directly from a pulley on the grain separator and equipped with enough pipe and elbows so that the grain can be blown right into the storage bins in the barn or granary, even though the thresher is set several rods away. As the picture shows, this grain blower is equipped with a hopper which receives the grain as fast as it weighed. From this hopper the grain is conveyed by an auger a short distance past the fan so that it enters the air stream and does not go through the fan itself. These blowers have been on the market for several years in various styles, both for attachment to the threshing machine and as separate machines into which wagon loads of grain may be dumped.

Small Blower Available

There is also on the market a smaller commercial grain blower suitable for use with a 5 h.p. motor. It has a hopper into which the grain is dumped and from which it runs directly into the fan housing. The rate of feeding is, of

course, controlled by a slide in the throat of the hopper.

Some question has been raised regarding the effect of the fan blades on the grain, but this method has been used for handling the small grain for seed at the University of Wisconsin College farms without apparent effect on the germination of the grain.

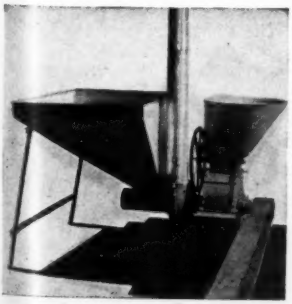
"As far as I can see, it didn't hurt our small grain at all, and I don't see any reason why the fan should have any more effect than the cylinder teeth," says Professor Leith of the Agronomy Department.

Two Tons in Nine Minutes

In a test at the South Hill Farm, the boys ran two tons of shelled corn through this machine in nine minutes, using a 5 h.p. motor and elevating the corn 20 feet.

While investigating the practical farm uses of electricity on the Ripon Experimental Line. Mr. W. C. Krueger tried the blower from a corn shredder for handling grain. He drove it with a 5 h.p. motor and blew oats about 25 feet into an upstairs bin at the rate of 225 bushels an hour.

The motor used only 1 kw. hr. for each 75 bushels delivered in the bins, and the device certainly saved the time of two men carrying sacks upstairs. The cost of one kilowatt hour of current is small pay



A small hammer-type feed mill equipped to elevate whole grain. The blower ordinarily delivers the ground feed. But the addition of the hopper at the left makes it a double purpose machine.

Here is the 5 H.P. motor that does the work.

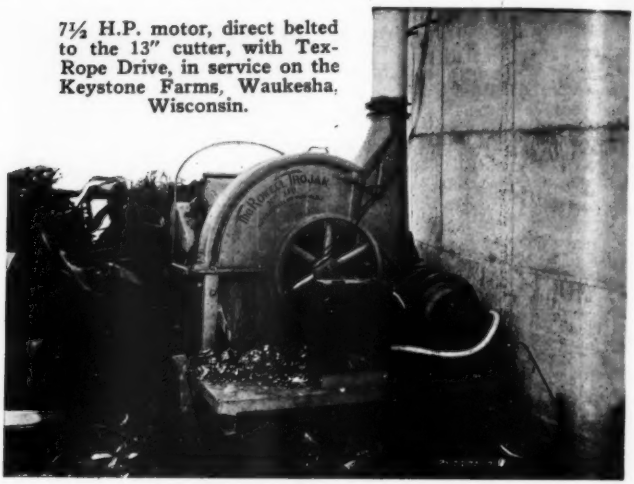
for the work of lugging 37 sacks of grain up a steep stairway.

More recently the development of the small hammer-type feed mill has emphasized the importance of overhead grain storage and has at the same time provided a most convenient means of delivering the grain to the bins. The manufacturers of all these little mills provide blowers for delivering the ground feed to the place where it will be used, and these same blowers are very handy for putting the whole grain into bins above the mill. One of the pictures shows such a mill small enough for practical use with a 5 h.p. motor and equipped with a separate hopper for holding the grain that goes through the fan without passing through the mill itself.

In a trial at the University of Wisconsin this machine, running at a speed of 2,500 r.p.m., and elevating 38 ft., handled 18,000 pounds of oats, about 560 bushels, in an hour. In this case it was estimated that perhaps 5 percent of the oats were hulled, but Professor Duffee believes that for an elevation of 25 feet a speed of 1,500 r.p.m. would be sufficient, and that at this speed the machine would not affect the grain. Of course, for feeding purposes the hulling or cracking of the grain is of no importance anyway.

Speaking before the Great Lakes

(*Continued on page* 16)



7½ H.P. motor, direct belted to the 13" cutter, with Tex-Rope Drive, in service on the Keystone Farms, Waukesha, Wisconsin.

Silo Filling With a Five Horsepower Motor

By A. B. BARFIELD
Rural Service Supervisor

THE value of the 5 horsepower electric motor for silo filling was demonstrated in several thorough tests in the dairy sections of Wisconsin last fall. The results were uniformly satisfactory. The following data is from one of these tests held at Fruit Bros. farm near Waukesha, Wis., and is fairly typical of the experience in the others.

A 5 horsepower utility motor and a 13 inch ensilage cutter were set up at the farm, which is a typical dairy farm with two large silos. The 5½ inch motor pulley was belted to the ensilage cutter set for ½ inch cut, with a 22 inch pulley on the cutter. This pulley arrangement gave a cutter speed of 440 to 450 R.P.M., while cutting. A 4½" pulley on the motor to give a cutter speed of 355 R.P.M., did not give satisfactory operation.

The amount of corn cut, energy used, and time required to do the work is shown below.

Test No.	Lbs. Corn Cut	Time in Minutes	KW.-Hrs. Consumed	Cutter Speed R.P.M.	Tons Per Hour	KW.-Hrs. Per Ton
1	2250	9	.9	440	7.5	.8
2	1125	5	.4	355	6.75	.71
3	2200	8.83	1.0	450	6.5	.91
		AVERAGES.....			6.92	.81

The following loads were approximately the same for all tests:

	H.P. Output
1. Filler running empty.....	1.61
2. Filler cutting and elevating (minimum load)	2.79

3. Filler cutting and elevating (average load) Motor speed at average load—1688 R.P.M. 6.1
4. Filler runing with material (peak load) 6.43
5. Filler running with material (peak load) 8.9

This demonstration afforded opportunity to test several makes of portable farm motors which are now on the market. Each motor was tested under approximately the same operating conditions to secure the load data. These tests showed fairly constant performance during operation.

A meter was installed in the motor circuit to measure the energy required to fill the silos. The energy required to do the job was 264 kw-hrs., which cost this customer $9.24, using the 3½c step of the rural rate. The Fruit Brothers estimated that approximately 300 tons of ensilage were put into the silos. This gives a power cost of 3c per ton for cutting and elevating, which is very economical for this kind of work.

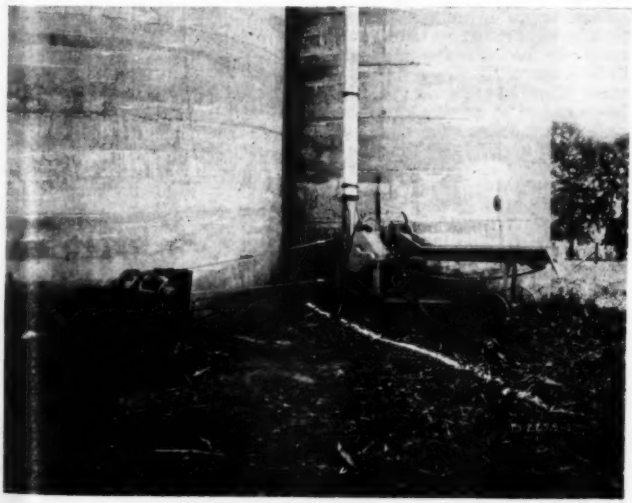
Considerable interest was shown in this demonstration by the farmers of the neighborhood numerous visitors calling at the farm to observe the operation.

Where larger ensilage cutters are owned, or where the height of the silo is unusual, it has been found desirable to use a somewhat larger motor; but in such instances the 7½ horsepower motor has been found adequate.

The Fraser Brothers, whose farm is also in Waukesha county, had used electric service only a short time when they decided to use a 7½ horsepower, single-phase, utility rig as a portable power plant. This motor was used to operate a 16 inch ensilage cutter during the 1928 season for filling a 30 foot silo. During the winter months this motor drives a hammer type feed grinder and is also adaptable for various other power applications.

The Keystone Farms, one of the largest dairy farms in Wisconsin, began to use electric power for en-

(*Continued on page* 16)



5 H.P. Portable Motor, driving 13" cutter, on the Fruit Bros.' farm, near Waukesha, Wis.

Slice Power Cost by Grinding Feed

Farmers on Mason-Dansville Line Use Electricity to Advantage

THE humble feed grinder is proving a leading ally of the agricultural and electrical forces that are working out ways to make electric power pay for itself on Michigan farms.

Prof. H. J. Gallagher points with enthusiasm to what has been accomplished by the little one-horse-power motor in the barn of Ellis Haynes on the Mason-Dansville line which the college is using as a farm electrification test line.

"That small motor attached to a hammer mill grinds one and one-half tons of grain every month at a cost of 90 cents," says Prof. Gallagher. "It used to cost Mr. Haynes $4.12 to get the same amount of grain ground at the village mill. In addition he had to bag the grain and haul it five miles to the mill and five miles back again. We can estimate his time, labor, gas, oil, and automobile wear at $4 to be added to the cost of grinding at the mill, making $8.12 in all. He thus saves the equivalent of $7.22 a month by grinding his own grain with that one-horse-power motor, minus interest on investment and depreciation of equipment."

Grinds While He Dines

Mr. Haynes gets still greater profit from his one-horse-power motor by using it to run his milking machine.

On this farm the granary is above the barn basement and the grain is carried by a chute to the feed mill. Each morning when Mr. Haynes finished milking, he takes the belt from the milking machine and connects it with the mill. He throws the switch and goes to breakfast. The mill grinds two feedings—for the night and the next morning—while he is at breakfast or busying himself with other matters.

Albert Miller, a nearby farmer, and his father, now retired, have been comparing this method with their old way of doing it and find an advantage both for time and labor in grinding at home.

Their dairy cattle use one bag of feed a day. Formerly they took the grain to the mill three and a half miles away to have it ground. They made the trip every two weeks.

It used to take two men thirty minutes to fill 14 bags. Then it took 45 minutes to drive to the mill with a team and 45 minutes to drive back. Sometimes there was a wait at the mill, too.

The mill charged 10 cents a bag for the grinding, $1.40 for the two weeks supply.

The electric power for grinding the feed at home costs 1¼ cents a bag; 25 cents for a fortnight's grist. There is no time spent in bagging the grain or hauling it to and fro.

Ellis Haynes, on the Mason-Dansville Line in Michigan, saves the equivalent of $7.22 a month by grinding his own grain with a 1 H.P. motor. This figure does not take into account interest on investment or depreciation of equipment.

Harnessing the Motor to the Silo Filler

By F. W. DUFFEE
Agricultural Engineering Dept.,
University of Wisconsin, Madison, Wis

A FIVE horsepower motor that will cut and elevate corn efficiently when the cutter runs around 400 R.P.M., will just run the cutter itself at 600 R.P.M. So much power goes into the production of speed.

We have a vivid example of that in the engines that run airplanes. 200 and 300 h.p. hitched to their narrow propellor blades is consumed in whirling them at prodigious speed.

Since one of the first considerations in motorizing the silo filler is the reduction of its speed, pulleys come in for their share of attention.

We can work out the pulley requirements for any silo filler by multiplying the diameter of the motor pulley by its speed, then dividing by the speed the cutter is to run.

Suppose the pulley on the motor is 5" and its speed 1750 R.P.M.

5" x 1750 = 8750

The cutter, if it is a 13" or 14" machine should be run at from 400 to 450 R.P.M. Assume 450 for his problem.

8750" ÷ 450 = 19.8" or 20"

A 20" pulley will give the proper speed reduction. As a matter of fact, a 6" pulley on the motor will give somewhat better belt contact, and when it is used, a 24" pulley on the cutter will keep the speed between 425 and 450 R.P.M.

Proper Belt of Great Importance

But the proper pulleys on the best equipment in the world will give no better service than the belt that carries the power from the motor to the machine. And this new form of power with its high motor speed and the small pulleys requires particular attention to the belts.

A belt that will hug a small pulley and stay on it at any speed must be thin and flexible. It may be either leather or rubber, but it is highly preferable that it be endless in either case.

We find that the belt to the silo filler can be between 15' and 25' long from pulley center to pulley center. It must be 6" wide to carry the power requirements of the cutter. A four-ply belt works very well if it is not too stiff.

Keeping the belt in good shape is an important part of the job. If it is a leather belt, it will work better and last longer run with the hair side next the pulley. It should be kept clean by washing it occasionally with regular harness soap. Oil it often enough with a good belt dressing or pure neat's foot oil to keep the hair side rather soft and velvety in texture. Rubber belts seldom require any dressing, just keeping clean, though some people do recommend a light application of castor oil on the side next the pulley.

If you choose the belt of proper size and thickness, you do not have to dope it up with sticky, gummy substances to make it transmit all the available horsepower. Avoid molasses, resin, soap and tarry substances.

Put the right belt on the right pulley; it will do the job.

An electric motor starts up with a terrific rush of speed. When it is starting machinery like a silage cutter with its heavy flywheel, I like to open and close the switch several times while the machine is coming up to speed. I turn it off as soon as the belt begins to slip a little. It comes right back on. When I coax it along a little this way at the start, I do not have to have the belt tighter for starting

than it needs to be for successful running.

A small 3/8" block and tackle or a wire stretcher with one end anchored to a stake in the ground is a good way to keep the belt tight.

Who Will Handle the Grain?

(*Continued from page* 11)

Division of the National Electric Light Association last year, Professor H. J. Gallagher, of the Michigan Agricultural College, told of his experience in handling grain with a silo filler.

"During the recent threshing season a silo filler was converted into a very satisfactory grain conveyor by merely removing the knives and installing a hopper on the side of the drum in place of the feed table. This outfit was set near the threshing machine and received grain directly from the spout. In this manner grain was conveyed 40 feet in one instance and 93 feet in another. The 40-foot pipe had a 90 degree elbow 12 feet from the blower, yet practically no clipping of the oats was apparent.

"In an effort to plug the pipe the threshing machine was taxed to capacity and delivered oats at the rate of four bushels a minute, yet the conveyor handled them easily, even on the 93-foot run. The outfits saved four and six men respectively, whose wages and board, minus the cost of energy used, amounted to $21.30 on farm No. 1 and $18.90 on farm No. 2."

Kansas Agricultural College has also used the blower type of grain elevator operated by a 5 h.p. motor. They found its ready adaptability a most desirable feature, for it will work successfully under conditions where other types of elevators would be almost useless. The Kansas trials showed that blowing grain took somewhat more power than other methods of elevating, but even so it required less than 2 kilowatt hours of current for each 100 bushels of wheat lifted 10 feet.

Silo Filling

(*Continued from page* 13)

silage cutting during the 1928 season, and found it very satisfactory.

A solid shelf was attached to the frame of a well designed 13" ensilage cutter and on this platform a 7½ H. P. motor and its starting switch were securely mounted as shown in the accompanying picture. This brought the motor shaft within about two feet of the cutter shaft. However, a smooth and silent but positive drive was secured by putting grooved pulleys on both motor and cutter and using four strands of a special type of belting known as Texrope.

Such an arrangement avoids all the problems and saves all the time involved in lining up belts, keeping them tight, and anchoring the cutter and the source of power. Besides, it permits driving the loads along the side or the end of the feed table as wind or other conditions may make more convenient. Also there is nothing to prevent driving the empty wagons away without the loss of time and interference with the next load, that results from backing them out of close quarters.

This outfit was used to fill four silos at Keystone Farms and it required 287 K.W. Hrs., to cut and elevate ensilage estimated at 470 tons, or an average of less than ⅔ K.W. Hrs., a ton.

A Year of Brightness

Electric lights are now being installed in our neighboring town. In our farm we will install an electric pump that will pump our water to the house and barn; of course this will do away with our old hand pump which was a great bother. A one-fourth horsepower motor will be installed to turn our grindstone.

Electric equipment will be installed in the house, such as iron, washer, toaster, etc. With these things and added in with these good lights, 1929 will be a year of prosperity and brightness for us.

Mr. Geo. A. Bryant,
Langdon, N. H.

Electricity, the Summer Servant of Coolness

By ETHEL MORRISON-MARSDEN

Mrs. Byron Legg, of Windfall, Ind., and her electric dishwasher which was the second piece of electrical equipment purchased for reducing labor in the Legg farm home.

THE hot, sultry, sticky days of summer challenge us to find either coolness or comfort upon the farm. It is indeed a proposition with the hearty meals that must be prepared and made appetizing, the huge washings and ironings of these days when the freshest clothing wilts at our touch, the dusty house to be kept clean and cool, the baby to be kept quiet and comfortable through teething, and all the rest of the story we farmers' wives know so well. We have gotten up early and tried to get our baking done before the sun was high, we have pulled down shades to keep out the sun and even closed the doors, we have run up and down cellar thousands of times with butter, eggs and milk, all to little avail. There is only one way to meet the challenge of summer's heat and that is by using electricity.

It is hard to tell which electrica' device is the greatest aid in summer months for the electric range, the iceless refrigerator, the washing machine, iron, the fan, electric coffee percolator, grill and toaster all play their part in the warfare against summer heat. Even the motor on the sewing machine often aids in summer months if there are new curtains to be made, or baby or Betty needs a new slip or dress. With the aid of a motor I have cut out, sewed up and completed dresses for my little daughter in one and a half hours time for a simple pattern, and three hours for a more complicated one.

The electric range plays a very

Mrs. P. B. Chubb near South Bend, Indiana, with her motor-driven churn, which is operated by current from a rural high line.

important part in the life of a farmer's wife on hot days. Then its worth is truly appreciated for it confines its heat to the point where it is applied and does not throw it off promiscuously. It is not necessary to get up at three-thirty or four in the morning to do the baking before the sun is up with an electric range, for even when baking such things as bread in the oven the stove does not heat up the room. It is no hardship to cook hearty dinners or suppers even for threshers on this range.

The electric coffee percolater, grill, toaster and waffle iron all serve to simplify the preparing of meals and where one has no range but has these accessories many meals can be prepared on these at the table without even lighting the gasoline stove or kindling the old cook stove. A grill comes in handy with the baby too; I used to keep ours on a small bedside table at night and in the middle of the night I would prepare the milk for the bottle without getting out of bed.

A refrigerator is simply too delightful for words to describe after one has run up and down stairs a million times, more or less, with butter that was too soft, and milk that had soured, cream that would not whip, and meat that would not keep until it had been all used up. What a proposition this getting meals is on a farm. One year we tried to put up ice and after my husband had hauled it two miles from the lake, packed it according to instruction in straw, it was all melted by the middle of June. The iceless refrigerator makes possible not only the saving of food

Mr. and Mrs. Wm. Volkel, Perrysville, Indiana, enjoying to radio program.

Mrs. R. H. Bainer, Wanatah, Indiana, using electric ironing machine, which is heated by electricity and driven by a small motor.

but it provides the means of many cold and frozen dishes, dainties and drinks that are so enjoyed in these hot days.

The washing machine, though of use the whole year thru, is priceless in the summer months for then the washings are so big for the children soil so many garments.

And of course hand in hand with the washing machine goes the iron. Not every one can afford an ironer, but, when they can, it certainly is a labor saver over the iron. Although the ironer does take a little elbow grease, it saves footsteps, back and forth from the stove, and helps to keep the house cool by eliminating the heat from the stove for this process.

How the Fan Serves

There are many uses for an electric fan, altho its principal use, as we all know, is to bring us sea breezes when the thermometer soars to 100° in the shade. It can be used for drying hair after a shampoo or swim; sometimes we sets ours close to the coal stove in order to cause a draft and make the fire draw on a damp day in the fall; and once I saw the fan used with racks upon which corn was being dried for winter use. Three wire mesh racks were set one above the other and the fan set in action. It was surprising how soon the corn was dry, in a matter of hours, not days or months. So that this too may be a feature of your summer work.

Electricity contributes much to our comfort by providing us with running water both hot and cold, it assists the housekeeper in cleaning, making this task a pleasant one, when it is done with a vacuum cleaner. No more need we raise dust thru the entire house or tire ourselves out with broom or carpet sweeper, electricity has given us a new way of cleaning.

The idea revolves itself back to the countless ways in which electricity waits to serve you—and in summer months electricity surely is the god of coolness, comfort and cleanliness.

First Savage: Why so gloomy on this big day of the feast?
Second Savage: Why not? We have a dozen giraffes for the meal, and you know I always get the neck!

Hitching Up the Motor

By F. W. DUFFEE and V. B. MEACHAM

NO machine is more efficient than the belt that carries its power. Farmers who are beginning to use electricity to run their mills and drive their saws realize that they have a rather special problem in fitting the machinery formerly run by gas engines to motor drive.

The belt speed of their old engines was probably around 900'-1000' a minute, but it is usually from 1800'-2000' a minute with an electric motor. They need pulleys first of all to adapt their machines to the speed of this new power.

How to Determine Pulleys

There is a very simple rule for determining the pulley sizes for any job.

Multiply the diameter of the motor pulley by its revolutions per minute. Then divide the number thus secured by the revolutions per minute of the driven machine. This gives you the diameter of the pulley for the machine.

Suppose, for instance, that you start out with an 8" pulley on a motor running 1750 R. P. M.

$$8 \times 1750 = 14000$$

If a feed mill runs at 3500 R. P. M. its pulley must be

$$14000 \div 3500 = 4''$$

It is useless to try and guess at proper pulley sizes; you have to know.

One day last fall a farmer in eastern Wisconsin set up a new ensilage cutter to run with a 5 h. p. motor. The local dealer expected it to run at 600 R. P. M. as usual. When the motor started, the farmer found that he was using all of his own power to run the machine empty.

"Well, it won't go with that pulley," he said to the dealer reluctantly. "I guess we'll have to get a man in from the company with a smaller pulley."

So he telephoned in and an expert from the factory packed up a couple of pulleys and rode out to the farm.

"Let's try this larger one," he suggested. "Perhaps you should to run the cutter slower."

"Oh, no," insisted both the farmer and dealer. "It isn't going fast enough to elevate that corn now. We must try the smaller one."

Of course the smaller pulley did not help at all. But since they refused even to try the larger pulley, the harried service man went back to the factory with the story of his failure.

Thereupon the manager, who knew that the secret of running an ensilage cutter with 5 h. p. lay in keeping the speed down, clapped a hat on his head, packed the big pulley back in the car and hurried out to the farm.

"Don't you remember that they ran those silo fillers at 425-450 R. P. M. down at the University?" he asked. "You are trying to push it up to 600: Just getting up that speed takes all your power. With this 20" pulley we'll get the speed down where it belongs. Then the motor will cut and elevate the corn all right."

Big Pulley Does the Work

So he put the big pulley on whether or no, and when the motor started up again, he began feeding the corn stalks into the cutter. They went through without a hitch —and the corn began drooping out of the pipe into the silo.

The success of the whole job was dependent on a few extra inches in the diameter of that pulley.

Selecting a belt to transmit the power at these unaccustomed speeds is the next step.

If you are going to leave the motor and machine set up permanently, you will probably find a good water proof leather or rubber belt the most satisfactory. These belts neither shrink nor expand in wet or

dry weather. Canvas belts do not work well where the motor and machine are fixed, because they shrink when it rains, and stretch out again as they dry. Cold weather makes them so stiff that they will not turn readily over the small pulleys often used on motors.

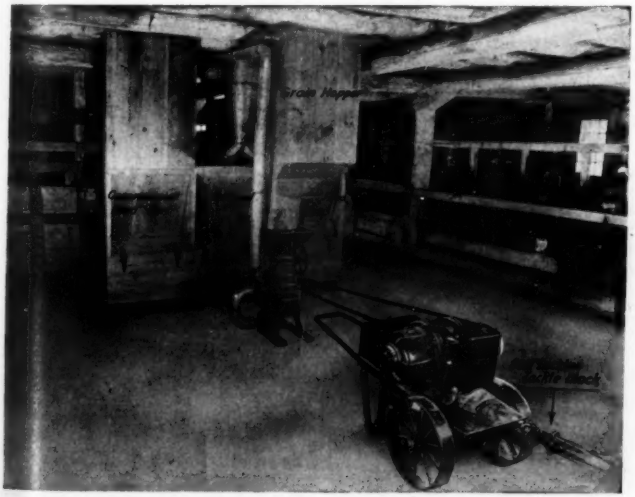
The thickness of the belt is important where there is a small pulley on one end or the other. A feed mill may have a 4" pulley; the motor an 8". The belt transmitting the power will be running about 3500 feet per minute. It must be fairly thin and more particularly, flexible to bend around the pulleys properly. If it has to be held tight to stay in place and hug the pulley, it will put extra wear on the bearings.

A Dane County farmer set up one of these new hammer mills last fall. It was a good mill, simple, sturdy and efficient. In electricity he had the best power that man has ever known, but the whole operation was a failure because he connected the motor and the mill with a heavy clumsy belt. As though that were not enough, he accentuated it by an unusually heavy, metallic lacing to join the ends. The belt was so stiff that it had to be stretched very tight to hug the pulley, and every time this lacing ran over the pulleys, it hammered and hammered at those motor bearings until they got out of order. With proper attention that machinery ordinarily operates for years without giving any trouble.

Flexible Belts Needed

As a rule a three-ply rubber belt will give better service than thicker belts. Or if you prefer leather, a one-ply, medium to light-weight belt. Some manufacturers make special belts for these drives —high speed over small pulleys. They are extremely flexible and surfaced with material that clings to the pulley readily without keeping the belt dangerously tight.

For electric motors up to 5 h. p. the distance between pulley centers of from 6′ to 12′ or 15′ is satisfac-



The best service from a farm motor depends on a convenient set-up with a tight belt, good alignment, and efficient splice.

tory if you use the right belt. For an ensilage cutter where an exceptionally large pulley is used, the distance can be 15′ to 25′ between pulley centers.

The width of the belt depends upon its thickness and the power it must transmit.

For ordinary conditions the following formula will work out the width satisfactorily:

w = width of belt in inches

v = velocity of belt in feet per minute.

$$w = \frac{1000 \times H.P.}{v}$$

The easiest way to calculate the velocity of your belt is to measure the distance around the pulley in feet—you can do this with a string and yardstick—then multiply that by the revolutions per minute.

The velocity can be calculated by the following formulae:

$$v = \frac{d \times 3.1416 \times R.\ P.\ M.}{12}$$

d = diameter of pulley in inches

v = velocity of belt in feet per minute.

This applies to four-ply rubber belts or medium single ply leather belts. Three-ply rubber or light leather would transmit roughly three-fourths as much power.

In selecting the belt you must remember that a motor will develop twice its rated horse power a short time and will throw the belt off if it is not designed for an overload.

In general we recommend the following widths for a 5 H.P. motor operating the following machines:—

For a 3500 R. P. M. hammer mill with a 4″ pulley driven by a 1750 motor using an 8″ pulley, use a 3 ply rubber belt 4″ wide.

A belt this size will drive the full overload power of the motor up to the point where the motor begins to slow down, without slipping or being drawn up exceedingly tight. For a 13″ or 14″ ensilage cutter with a 20″ or 22″ pulley driven by a 5 or 7½ H.P. motor with a 5″ or 5½″ pulley on the motor, use a 6″ belt.

A four-ply belt can be used satisfactorily for the cutter if it is not too stiff, but a 4 ply belt is too thick for the grinder unless the belt is very pliable.

An endless belt is preferable for all these jobs. Leather belts can, and should be glued up endless by machine shops and supply houses that cater to such needs. Rubber belts can be ordered endless at very little additional cost.

Above all things avoid thick cumbersome laces over small pulleys. They will bump and pound

(*Continued on page* 40)

Wire lacings of belts are easily made. The wire is cheap and may be had at any supply store. Be sure that the ends of the belt are cut square before the lacing is made.

Making It Easy for the Youngster

By C. P. WAGNER

IT recently fell my lot to be invited into a farm home with the remark "well you have now told me what to do with electricity on the farm as far as the chores around the barn are concerned, but I have a 'stumper' for you in the house." We went into the house and while I was being shown the two months old youngster, just trying to laugh for the first time, Mr. Brown said "I am trying to find just what will be the most useful electrical equipment for helping this one along."

Immersion Heater First

After checking over the items in my mind, I suggested the immersion heater as one of the most useful appliances to serve the youngster, for it is a great labor saver when it comes to heating the milk for the nursing bottle. In answer to a question with regard to putting the heater in the milk, I emphasized that the milk should be prepared and put into the nursing bottle, capped and ready for use. This prevents insertion of the heater into the bottle unless large mouthed bottles are used. Milk will be more sanitary in the small mouthed bottles if they are boiled thoroughly. Heating is accomplished by placing the bottle and the immersion heater into a container which is just large enough to hold them, thus allowing a minimum of water.

Then the Fan

Second in my choice from the standpoint of utility was the electric fan. "The fan can be used to advantage," I told Mr. Brown, "where there are small children, in both winter and summer—in summer, to circulate the air and maintain cool uniform temperature; in winter, for circulating the air from the heater in such a manner that the entire room is maintained at uniform temperature regardless of the location of the heating unit. This last winter at our own home we saved considerable in fuel over the winter before, and this in spite of the fact that this past winter was said to be a twenty percent heavier coal burning winter than the one previous. Uniform temperatures help the baby to get through the critical periods of its growth."

"We had been figuring on purchasing a radiant heater" said Mr. Brown "and it seems to me that this appliance would also help maintain uniform temperatures which you state are necessary in successfully raising youngsters."

"Yes," I added, "the radiant heater undoubtedly provides one of the best means for furnishing additional warmth for bathing baby, or for taking the chill out of the nursery room. Its operating cost is not great, as it requires but ⅗ KWH per hour of operation."

"The question of food, too," I said, "is of first importance. Our family physician informed us that maintaining fruits, their juices and vegetables fresh was one of the real problems of the farm in the rearing of farm babies. Ordinary ice boxes are incapable of maintaining cold temperatures. But we have found that the electric refrigerator not only makes the 'cold' but thereafter maintains it." I saw that he was interested, and I added as an argument for the electric refrigerator that he "try the old ice box with a reliable thermometer and see how many hours the temperature is above 50 degrees."

It is now recognized by health authorities that temperatures above 50 degrees are dangerous when it

comes to food preservation. Modern electric refrigerators are made to maintain temperatures of 50 degrees or less. Some of them are able to maintain uniform temperatures of more than 10 degrees below this, if regulated for that purpose.

I asked Mr. Brown if he thought I had covered the questions he had asked fully, and he answered by saying that I had at least given him sufficient data to guide him in the next new purchases he was going to make for the benefit of the youngster.

The baby that has the advantages of uniform temperatures summer and winter, of properly sterilized milk, of properly preserved foods, and of comfortable bathing facilities, to say nothing of the natural advantages of the farm with its fresh air, sunlight and vegetation, has a mighty fine chance of growing to sturdy manhood or womanhood.

Electric Motor Serves the Poultry Farm

By J. C. SCOTT

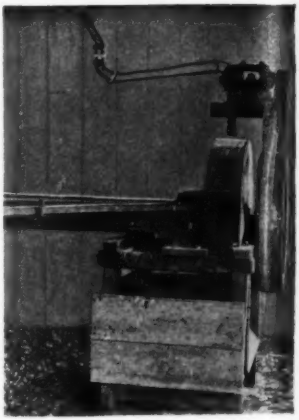
THE time for cutting straw littler for baby chicks has been reduced from one-half hour per bale, when the cutter was turned by hand, to seven minutes, by the installation and use of a one-half H. P. motor, on the G. A. Gaffney poultry farm, near Puyallup, Washington.

And the total cost for depreciation, interest, and electricity is a fraction of a cent per bale.

Mr. Gaffney broods about 8,000 chicks each year, and during the brooding season the litter must be changed very frequently, which requires 6 to 7 bales of straw for each change. Baby chicks can be kept healthy and grow fast only when the litter is changed often.

Under these conditions the small electric motor is saving many hours of extremely hard labor, and doing it at a surprisingly low cost.

"I don't know of anything," says Mr. Gaffney, "that has saved me so much grief in caring for the chicks as that little motor."



Here's the cutter on the Gaffney Poultry Farm that cuts a bale of straw in seven minutes.

Cuts Green Feed for Laying Hens

When the brooding season is over the motor and cutter continue to serve the commercial poultrymen of Western Washington in cutting kale and other green feed, so necessary for high-producing flocks.

The Washington Committee on the Relation of Electricity to Agriculture and the Western Washington Experiment Station at Puyallup, Wash., report that hens waste 20 percent less kale when it is cut rather than fed in the whole leaf.

Labor Reduced

It takes, according to the report, nearly six times as much man-labor to cut a given amount of kale, turning the cutter by hand, as with an electric motor. A saving of 81 percent is made in the expense of cutting by the use of an electric motor.

It requires from 1½ to 6 KWH to cut a ton of kale and 4 KWH to cut a ton of roots. A one-half H. P. electric motor will operate the ordinary green feed cutter. The pulley should be arranged so the cutter will go not faster than 250 revolutions per minute.

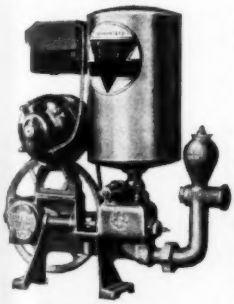
JUST LIKE CITY WATER SERVICE

An Investment in HAPPINESS

When you invest in a water system, make your dollars bring you the MOST water system performance and value. **Your** water system must benefit every member of the family—not for just a year or two—but through a **lifetime** of service. Make your water system a Duro for unfailing, carefree performance.

There are many patented advantages in pump construction that can be found only in Duro. For example: the Duro Automatic Air Regulator prevents tank from water logging and maintains the proper proportion of air and water at all times. It insures constant, uniform service from the pressure tank, and eliminates the usual bother of manually adjusting the air valve. The Automatic Air Regulator is but one of the many exclusive features of the Duro Water System.

Let the nearest Duro dealer show you these money-saving advantages. Send in the coupon for illustrated booklets on Duro Water Systems.



A REMARKABLE VALUE!
The Duro Fresh Flow, Automatic, Electric Water System has a capacity of 250 gals. per hour, and costs only $69.50 f.o.b. Dayton.

THE DURO COMPANY
537 E. Monument Ave., Dayton, Ohio
"Duro—Without a Fault"

Cut off and Mail

DURO Automatic WATER SYSTEMS

THE DURO COMPANY, 537 E. Monument Ave., Dayton, Ohio

Please send me full information on Duro Water Systems, and free advisory service on my requirements.

Name..... **Address**.....

ELECTRICAL HOUSEKEEPING

Conducted by
GAIL MEREDITH

Going Away to School

EVERYBODY up our road is having a hand in getting Beth Crosby ready to go away to school this fall.

I went down with her mother and her when they picked out a pleasant room not far from the campus, and we've all been very much interested in the clothes she was going to have and how much her allowance should be.

Neighbors are that way, you know.

It does not take as long to get a girl ready to go away to school as it did a generation ago. There are no yards and yards of lace to sew on anything, nor miles of pin tucks to run in by hand.

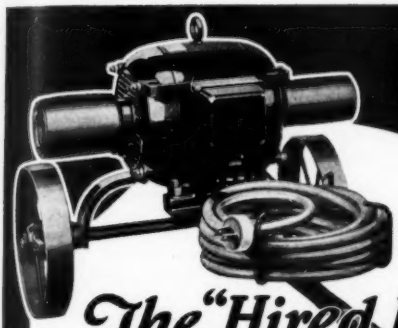
Beth is spending her summer much as usual, helping her mother and driving out to the lake to swim every day just as though college were not waiting for her around the turn of the month.

She did tell me she had made a couple of pairs of pongee pajamas and two of outing flannel when I saw her the other day. And they are starting in on a couple of dresses for school next week, but there is no great rush or bother over it.

We have discovered in our planning that there are lots of things besides clothes that must go into the smart square hat box Beth got for graduation, or the little old trunk her mother hauled out from the attic for her.

There is a big, warm blanket she can use in her room and take to football games. There is a desk lamp for her study table. Her

What Shall I Take?



The "Hired Hand" that never quits!

There's nothing in the world so exasperating as to have a hired-hand quit right in the midst of your busiest season—and hands have a habit of doing that.

Here's one that never quits. It is the new, greatly improved, Master Portable Farm Motor. It embodies the utmost simplicity . . . compactness . . . and portability. Whether you use it to saw wood, grind grain, fill silos, or any of the many chores it will perform, it does them all quickly *and at very low cost.*

Send for complete details regarding this new motor.

The Master Electric Company
Dayton, Ohio

STOCKS CARRIED IN PRINCIPAL CITIES
More Than 70 Service Stations
MASTER GUARANTEED MOTORS
1/20 TO 10 H.P. Dayton THE MASTER ELECTRIC CO. Ohio Less than 40°

mother and I decided this last was particularly important because the lights in the room she is to have are high and unshaded and not at all right for hours of study.

Then there is a flashlight to tuck under her pillow and give her a sense of security in the first few nights in a strange place.

She is packing an electric curling iron, too, and a small hair dryer to finish up that last minute shampoo girls always decide to have just before some heavy date.

An aunt of hers who teaches in the city sent her a tiny traveller's iron for a graduation present. Her father made her a small ironing board that fits in the bottom of her trunk, so she can iron out a few handkerchiefs and press out a wrinkled dress or blouse without bothering anybody.

And I myself gave her a fleecy rose colored heating pad to tuck in bed some cold night when it takes too long to warm up the sheets herself.

* * *

Frozen Desserts

A FEW centuries back Lord Bacon wrote, "Heat and cold are nature's two hands by which she chiefly worketh, and heat we have in readiness in respect of the fire, but for the cold, we must wait till it cometh."

And up till recent years most of the world did just that. But along about the time that the housekeepers of America began to really learn that food spoils because of the action of certain malignant little yeasts and molds—and that those yeasts are dangerously active when the temperature goes above 50 deg., we began to insist on having cold, too, the year round.

There are plenty of lakes and rivers where we can harvest ice in the northern part of these United States, but distributing it is a different matter. So the places where the ice wagon does not pass—and the sections of the country that have no ice to store are keenly interested in mechanical refrigeration.

In an electric refrigerator a motor driven cooling unit in a well insulated, sturdy box provides a constant low temperature for food storage the year through no matter what vagaries the thermometer indulges in.

Once one is installed in the kitchen the long summer trail to spring house or the well, and up and down the cellar stairs is ended. We just turn around and open a door to put the butter and milk away—and we can slip them into a chamber high enough to reach even the lowest shelf without stooping.

Miles of steps are saved.

A mechanical refrigerator immediately makes a difference in the meals we plan, too. I find I can plan and prepare food further ahead; I can get food ready in the morning and take it out crisp and chilled ready to serve at noon or night.

It helps in making tricky salads, too, frozen or just eaten cold. And it makes frozen desserts a simple affair.

This is a particularly roomy refrigerator.

This is a very dressy company dessert that our family likes best of all. It is called Angel Parfait.

½ cup granulated sugar
½ cup water whites 2 eggs
1 teaspoon gelatin
2 tablespoons cold water
½ cup candied fruit (preserved or stewed fruit cut fine)
3 tablespoons fruit juice or thick syrup, with fruit
1 to 1½ cups heavy cream whipped

Boil sugar and water until it threads. Soak the gelatin in

IS THERE A PLACE FOR THE FARMER IN BUSINESS?

THERE is a very definite and important place in business for the progressive farmer just as there is for the merchant or the manufacturer who is alert to modern trend of the times. Foodstuffs is a highly essential product, one with an established demand. The farmer's problem, therefore, is one of production. He must beat down production costs if he would increase his profits, and to this end *Electricity* is unquestionably the most valuable of allies.

When he employs this worthy servant, its success depends upon his selection of the proper system of wiring. Total or partial isolation and the absence of fire protection quite naturally place *Safety* foremost on the list for consideration. Next is *Dependability*, since service interruptions can rapidly consume profits. Then comes *Economy*, a factor in any business investment.

KNOB & TUBE Wiring, a system utilizing hard vitreous Porcelain for insulation offers most in these three important requisites. Porcelain **KNOB & TUBE** installations have for over 40 years proved to be **SAFEST**, most **DEPENDABLE**, and the most **ECONOMICAL**. A silent confirmation of this can be established right in your own neighborhood. Your power company insures continuous service by equipping its lines with Porcelain Insulators. Insulations may come and go . . . but few **go on.** Porcelain **KNOB & TUBE** Wiring has carried on through the years . . . since the very inception of the Distribution of Electric Energy.

Ask your own Contractor-Dealer about the merits of Porcelain KNOB & TUBE Wiring . . . also prices. Or write to the following sponsors for particulars.

Illinois Electric Porcelain Co.
Macomb, Ill.

Knox Porcelain Corp.
Knoxville, Tenn.

Porcelain Products, Inc.
Findlay, Ohio

Equipped with gas engine for homes without electricity

Now

a Washing and Ironing Machine Combined

At a price formerly asked for a washing machine alone

WOMEN on the farms—you can now be rid of the drudgery of both washing and ironing, and pay no more than you have been asked for a good washing machine.

The Hurley Machine Company has just perfected this complete laundry unit—the first and only machine of its kind. It combines the Thor Agitator—world's most thorough and efficient speed-type washer—with the New Thor Rotary Iron, that does your ironing in one-fifth the time required by hand.

The Thor name on this new laundry unit is your assurance of lasting satisfaction. Write us for illustrated booklets describing this and other Thor home laundry equipment.

THE HURLEY MACHINE CO.
22nd Street and 54th Avenue
Dept. A-8. Chicago, Ill.

cold water and dissolve it over hot water. Pour boiling syrup over the whites of eggs, beating constantly. Add gelatin and fruit; chill until it begins to set. Then fold in cream.

During watermelon time we always keep a big melon in the box. It tastes so much better cold.

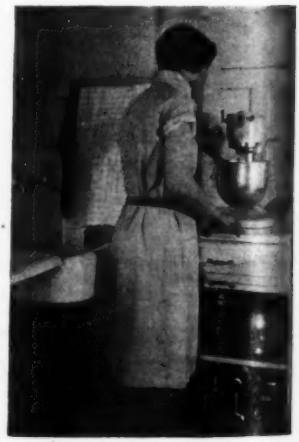
This whole job of getting the food on the table three times a day is immensely simplified when we can keep it cool with current.

* * *

From Eight to Five

That new kitchen motor I told you about recently is certainly beginning to feel at home at our house. I have been keeping tab on the jobs it does to make sure it's going to earn its keep. Here is its record on a busy Saturday.

7:45 It squeezed the oranges for tapioca pudding.
8:00 It beat up yeast and flour and water for bread.
8:15 The same beater creamed butter and sugar for cake and beat the batter when the flour and milk were added.
8:25 Beat egg whites with wire whisk.
8:45 Mixed salad dressing.



Dorothy puts the cake together and the motor mixes it up.

9:10 Cut celery and apples and nuts in shredder for gelatine salad.
9:30 Kneaded bread.
10:15 Beat frosting for cake.
10:30 Beat up eggs and boiled syrup for meringue for tapioca.
3:00 Mixed all the materials together for two batches of refrigerator cookies.
4:30 Beat a batch of fudge.
5:00 Beat up all the ingredients for a Johnny cake.

And all the while this was going on the house was being slicked up for Sunday—dusting and vacuuming in the living room, and scrubbing and sweeping up in the kitchen and bath room. The Sunday roast and the Saturday evening beans were cooked, and meals came onto the table as usual.

It gives me a great feeling of luxury to be creaming butter for a cake with the motor and getting the roast into the oven with my own two hands. For those minutes there's two of me, that's all.

* * *

How Electricity Serves Me

What electricity does for me: It lights my house, my barns, my farm, without danger and without harm. It milks my cows, and pumps my water. Helps father, mother, son and daughter. It pops my corn, and toasts my bread. It sweeps my rooms, and warms my bed. It makes my coffee, it keeps me hot. It curls my hair. Oh, it helps a lot! It whips my cream, and keeps all things cold. No danger these days of having mold. It sews my seams, and irons my clothes. Though just what it is, nobody knows. It runs my many motors, and fans my sweaty brow. It bottles all the milk I get from a herd of forty cows. And yet after all these praises I've sung, the best of all them—it can keep us all young.

Miss Hazel E. Wheeler,
Bridgeport, Conn.

* * *

Just Received It

Electricity has just entered our home, and we have electric lamps, iron and toaster, and expect to add many many more things just as we can afford them.

Mrs. Harley Russell,
Dexter, Mich.

Washes Clothes *in less than 1/3 the time*

With General Electric Motor

and does *all* the work

ACTUAL tests have demonstrated that this new Thor Agitator Washer will do your whole family washing in less than one-third the time required with a washboard. It does *all* the work. It washes clothes cleaner. And the cost of doing a generous washing is about equal to the price of 2 postage stamps.

Women on the farms—*read that again*! Can you afford to sacrifice your health and lose these precious hours for the sake of a few cents? It's false economy—and it doesn't pay.

We'll gladly send you illustrated booklets describing this, and all, Thor home laundry equipment. Write to

THE HURLEY MACHINE CO.
22nd Street and 54th Avenue
Dept. A-8 Chicago, Ill.

Make the Most of Your Lights!

By LAURENE LITTEL
Home Lighting Consultant, Minneapolis, Minn.

THE advent of the electric light on the farm is so recent that there is still time to offer advice on its correct use and warn of its misuse! There is nothing more cheerful than lamps and lighting properly shaded and placed and nothing more irritating than the glare of an unshaded electric lamp. Hence these suggestions timely and tested.

Contrary to popular belief the *brightness* of a light does not always gage its efficiency. A 15 watt lamp, unshaded might easily be too bright if it is directly within our line of vision. On the other hand a 200 watt lamp, surrounded by a shade of glass, silk or parchment, placed at a desirable position, would not be excessive for a sizable room.

The secret of the success of the portable lamp lies in the fact that the light is shaded. Not

(*Continued on page* 36)

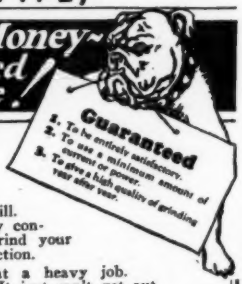
In the Kitchen Utility Comes First

The kitchen is the one room in the house where no sacrifice should be made of utility to gain beauty in lighting effects. It should have an overhead center unit which supplies the main light and which is controlled by switches located at the common entrances. In addition it should be provided with bracket or wall lights placed over the sink, working table or range. The convenience outlets should be placed over the work table or near the sink as desired. The walls of the kitchen should be painted a light color, never use red, brown, gray or black.

The PRATER MILL
(HAMMER TYPE)

5 H.P. $75

Save Money~ Grind Feed at Home!


Guaranteed
1. To be entirely satisfactory.
2. To use a minimum amount of current for power.
3. To give a high quality of grinding year after year.

Convenience and Profit! That's the 100% record of the Prater hammer type Farm Mill. Winter and summer, this simply yet sturdily constructed feed grinder is always ready to grind your grains or roughages or crack corn to perfection.

No back talk—no growling or grumbling at a heavy job. Prater Farm Mill is always ready for work. It just can't get out of order because there are no gears or plates to get that way.

And as a Money Maker, Prater Mill is your trusted hired man in charge of better feed at less cost!

For a character reference, ask your local power company, or your state experiment station.

Send for Prater Mill's new book of Performance Facts

PRATER PULVERIZER CO.
Dept. K-817 West Washington Boulevard, Chicago

COOL YOUR MILK
this Better Way—

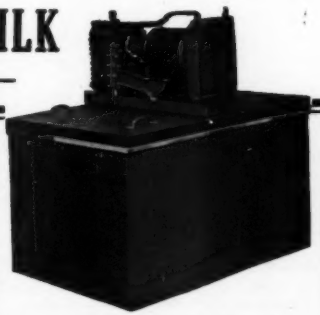


Illustration shows complete Haven Farm Milk Cooling installation with all-steel insulated tank. Furnished either for belt drive from shafting or engine, or with direct-connected motor for electric power.

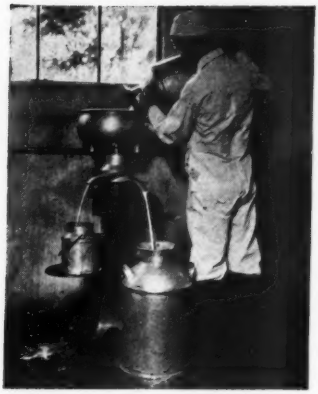
Quick, efficient cooling of milk immediately after each milking means sweeter, fresher *delivered* milk and cream.

Act now to get the benefits of Haven Milk Cooling this season! Installation is quick and simple. Complete system (tank and machine) can be put into actual operation 2 hours after delivery.

This Haven Refrigeration System is made especially for *farm milk cooling*. That is one reason why it excels in farm service. *Write today for complete information.*

HAVEN MANUFACTURING CO. - - Milwaukee, Wis.
Dealers: A few good sales territories still open.

HAVEN REFRIGERATION SYSTEM for FARM MILK COOLING



Throw the Switch —and Let De Laval Do Your Separating and Milking

A THROW of the switch and your electrically operated De Laval Separator or Milker is at work for you doing your separating and milking in the most efficient manner possible; relieving you of monotonous, unpleasant work.

Electrically equipped De Laval Separators and Milkers operate economically and pay for themselves. There is a De Laval Separator for every need and purse and two great De Laval Milkers.

The De Laval Separator Co.

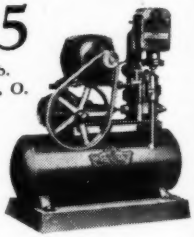
New York 165 Broadway — Chicago 600 Jackson Blvd.
San Francisco: 61 Beale Street

THINK!

Running Water the rest of your life for only

$75

f. o. b. Dayton, O.



DEPENDABLE running water—year in and year out—running water for the kitchen, bath and garage—running water for the stock, milk house and barn—all at the turn of a faucet.

Isn't it worth $75 to you to get all these advantages for life—especially so when you're buying the same unequaled mechanical perfections in the Waterboy that have made all Water Systems and other General Motors products famous.

You owe it to yourself to find out more about this new and amazingly low priced Waterboy. Drop in to see your local dealer or get in touch with the factory for further information.

DELCO-LIGHT COMPANY
Subsidiary of General Motors Corporation
Dept. P-93 Dayton, Ohio
Also Manufacturers of Delco-Light Electric Plants.

DELCO ELECTRIC WATER SYSTEMS
Products of General Motors

"The GOLD STANDARD *of Quality"*

Waterboy Water System
Yours for Something

Front Cover Title Contest

Every member of a farm family getting this little magazine is eligible for these front cover title contests.
Use the form below or if you don't want to tear the magazine, you can make out your own form on a separate sheet of paper, writing on one side only.
In addition to the $25 cash prize for the best title to this month's front cover, we will pay $5 for each of five titles given honorable mention. In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled. The winners will be announced in the September issue.

Here are the rules:

1. **Only the farmers or members of the farm family, to whom this magazine was sent, are eligible.**
2. **Only one title may be submitted.**
3. **Use the form below or write your answers on a plain sheet of paper in similar form.**
4. **Be sure to answer question (a).**
5. **Write plainly and send your suggestion to the Title Editor, ELECTRICITY ON THE FARM, 225 West 34th St., New York, before September 1.**

THE JUNE WINNER

"When Wires Come Through and Dreams Come True."
Mrs. M. B. Bergeron, P. O. Box 61, Ponchatoula, La.

And the following titles have been selected as the winners of the five $5 cash prizes:

"The Commencement of Current Ice Cream," Edward Pope, Medway, Mass.

"Acquired Knowledge of Electricity, Makes Homecoming a Simplicity," Alma J. Wilke, Watertown, Wis.

"Grandad Realizes the Value of Attachments, Electrical and Sentimental," Mrs. R. W. Curren, R. D. 1, Elmira, N. Y.

"Commencement of Better Days for Grandpa," Mrs. Henry Buchinger, Dalton, N. Y.

"Educated to Electricity, Graduated from Work," Miss Olwen Daniel, Cambria, Wisc.

My Title for August Front Cover picture is.....
.....
.....
.....
.....
.....

(a) How far do you live from the town where you buy electrical devices or supplies?.....miles

Name .....

Address .....

only that, it is also directed to a desired spot, and the shade is beautiful in itself. Should this not apply to the overhead light as well?

As a main light source the overhead cannot be excelled. It dispenses light to each section of the room. It is above our line of vision—so that the eye is not constantly attracted to it. It is placed to light walls and ceiling, giving the effect of spaciousness. It is most comfortable for conversation, cards, dancing, music. It would be well to provide all of the major rooms of the home with the overhead light, operated, of course, by a switch at the main entrance or by more than one switch if the room size or convenience demand it.

There is another type of lighting which is more purely decorative—the wall or bracket light. At some locations, as in the kitchen above sink or range or in the bath at the two sides of the mirror, it is useful as well. The placement of bracket lights must be good for their complete enjoyment. There must be a *feeling of balance* throughout the room, although it need not be as obvious as two and two. For example, one bracket light can easily balance a pair of lights on the opposite wall. It would be far wiser to omit a bracket light than to spoil an otherwise good picture space by its addition. On the other hand a pair of shaded lights at either side of a favorite picture or tapestry or at

Bedroom Lights Combine Utility and Attractiveness

Bedroom lighting should consist of the main center unit controlled by a wall switch near the door and bracket or table lamps at the dresser and dressing table. A reading lamp at the head of the bed may be desirable. The individuality and charm of the room depends much upon the light shades and fixtures used. Convenience outlets should be placed near the points where they are most used.

WATER SYSTEMS
Increase Farm Profits!

A LITTLE Paul electric pump will deliver *more water for a cent than a man can pump and carry in an hour.* Plenty of fresh, clean, cool water for kitchen, dairy and barn! *What a relief from back-breaking labor!* Facts prove, too, that ample water supply greatly increases profits from live stock, dairy and poultry.

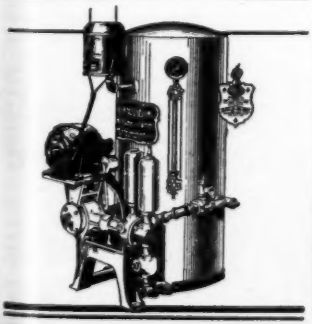
If you do not have an efficient water system, you are not getting the most from farm electricity. Write us today!

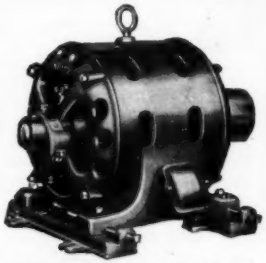
FORT WAYNE ENGINEERING & MFG. COMPANY
FORT WAYNE INDIANA
Pumps & Water Systems, Softeners, Heaters

Fort Wayne Engineering & Mfg. Co.,
1722 N. Harrison St. Fort Wayne, Ind.
Send complete information and prices on Paul Water Systems.

*Name*_____

*Address*_____





5 Horse Power Century Type RS Repulsion Start Induction Single Phase Motor

Use Century Motors

Make every day's work easier, especially in the busy season, by using Century Motors. They "Keep a-Running" and save both time and man power.

CENTURY ELECTRIC CO.
1806 Pine St. St. Louis, Mo.

40 U. S. and Canadain Stock Points and More than 75 Outside Thereof

Century MOTORS

PETERSIME

New

CHALLENGER *Models*

Developed for you who want the Petersime Electric Incubator's higher hatching averages in bottom-tray styles. Last word in time-saving simplicity at new, low prices. Full details of these new Petersime models may be worth thousands of dollars to you. Send for new Petersime Year Book, the "Challenger," at once. It's free. Write for it NOW!

WELLINGTON J. SMITH CO., 936 Davis-Farley Bldg., Cleveland, Ohio

either side of a balanced window arrangement, enhance greatly the value of the picture, etc., considered as a whole. Care must be taken not to crowd the wall light—since half of its charm lies in the soft circle of surrounding light. Twelve inches is a safe distance from door or window—except on a large wall space where it should be given considerably more room.

A pleasing arrangement of decorative wall lights is a relief from possible monotony of the overhead light. They give a room individuality and charm.

For the So-called "Breakfast Nook" an Enclosed, Decorative Light Provides Ideal Illumination

It remains for the portable lamps to give the final touch and the possibilities for decoration and comfort too are unlimited! All of which brings us back to shades.

The warm colors or the colors of natural light are always most desirable to live with. The shade

Direct, Uncolored Light on the Table Top and Soft Surrounding Light Are Ideal for the Dining Room

CLASSIFIED ADVERTISING

INVESTIGATE the proven records of economical operation and success of the LYON IMPROVED ELECTRIC BROODERS. Send for free authentic information and reports on electric brooding. Also ALARMS, Power-off, Temperature, Burglar, Heating & Thermostatic Supplies. Interesting circulars on modern poultry equipment upon request. Lyon Electric Co., Dept. FF, Box 1436, San Diego, Calif.

START a GUERNSEY or HOLSTEIN dairy herd. We are offering choice tuberculine tested Guernsey and Holstein heifers, practically pure, bred for heavy milk and cream production, one to three months old, shipped subject to inspection. Edgewood Dairy Farms, Whitewater, Wis.

The LAUSON Electric Pump Jack

will convert your ordinary pump into a water supply unit, controllable all weather by a button in the house, that will unfailingly deliver all the water you want—deep or shallow well, it works equally well.

Built Like a High Grade Auto Transmission

Machine cut hardened gears, fully enclosed, running in oil. Bronze bearings. No chains or sprockets. High grade motor. Compare with all others. Write for special literature and prices.

Also complete Water Systems

The John Lauson Mfg. Co.
700 Michigan St., New Holstein, Wis.

SUNLIGHT IS THE GREATEST REMEDY
and preventative of disease!

Here is the sunlight machine you have been waiting for. Low in first cost and maintenance. Backed by expert research experiments and our unconditional guarantee. An ultra-violet lamp specially designed for many uses on the farm and in the home.

"Poultri-Lite"

stimulates laying—increases hatchability — doubles broiler weight — prevents and cures rickets, etc.

May be bought singly or in battery with portable standard. Safe and simple to operate. Prepare now to give your flocks the health and vitality this lamp produces through Vitamin "D."

Write for complete information and test reports on Dr. Chesney's "Sunshine Carbons"—an exclusive feature of **Poultri-lite** that assures positive results.

RUSSELL ELECTRIC COMPANY
340 West Huron St., Chicago, Ill.

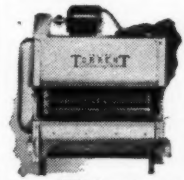
GILLETTE
Portable Electric Clipping and Grooming Machines

The convenience of the Gillette Portable Electric Clipping and Grooming Machines appeals to every progressive stockman, farmer, and stable owner. Attached to an ordinary lamp socket, it is instantly ready for work. No mechanical experience required to install or operate them.

Price list on request

Gillette Clipping Machine Co., Inc.
129 West 31st Street, Dept. 11,
New York City

Torrent Bunch Vegetable Washer
A Truck Farm Need



Saves Its Cost in a Few Months.

Will increase your profits.
Know more about this great time saver.

Felins Tying Machine Co.
1194-96 Fourteenth Street
Milwaukee Wisconsin

Make Your Washing Machine Do Double Duty

This attachment used with the Washing Machine will save time and labor for the housewife. All that is needed is a modern washing machine and a Freeze-E-Z ice cream freezer. The freezer part itself has no connection with the washing machine, but is attached on top of center post by means of an extension at bottom.

Dealers—Write for attractive prices.

COLE MANUFACTURING CO.
BIRMINGHAM, ALA.

ELECTRICITY and a DAYTON Water System will provide your farm with the greatest convenience of all —*Running Water.* DAYTON Water Systems are made in a complete range of capacities for deep and shallow wells. Write for details.

The Dayton Pump & Mfg. Company
Pioneer Makers of Private Water Systems

The DAYTON Unisystem made in four sizes. **Dayton, Ohio, U.S.A.**

must be of size and shape to completely conceal the light bulb and sufficiently dense to conceal the lighted lamp filament. This applies to shades for bracket and overhead lights as well.

Placed so as to obviously supply light to a comfortable reading chair or to the desk where father computes next season's profits or to animate the fireside picture, the lamp does much to produce the restful atmosphere so necessary after the long days work.

Hitching Up the Motor

(*Continued from page 22*)

the pulley until they injure either bearings or machinery.

The lacings shown in the illustration are easily made. The wire is cheap and comes at any supply store. Be sure that the ends of the belt are cut square before the lacing is made.

Hitch up the motor right. Vast amounts of power are lost by putting the wrong belt on the wrong pulley.

The simplest method of keeping the belt tight when a portable motor is used is to use a small self locking block and tackle to pull the motor back into the belt. The end of the block and tackle hooked to the motor should be as nearly as possible directly behind the belt. Most portable motors have an eye in the truck frame conveniently located for attaching the tackle.

The other end of the block and tackle can be fastened to a stake driven in the ground for outside work, or to an eye fastened to the wall or floor of the building for inside work.

An inexpensive block and tackle with 3/8" or 1/2" rope is most satisfactory for this job. The self locking type makes it very easy to keep the belt at the right tension all of the time, and if the tackle is in line with the belt or nearly so, no trouble will be encountered in keeping the correct pulley alignment.

Rubber belts ordinarily require no attention except to keep them away from hot dry places, as this causes the rubber to crack. Also, the belt should be kept free from gasoline, kerosene and engine oil as mineral oils are detrimental to rubber.

Leather belts should receive light applications occasionally of a good quality leather belt dressing or of neatsfoot oil. The prepared belt dressing can be secured at belt supply houses and the neatsfoot oil at any drug store.

Leather belts should be run with the smooth or hair side of the belt next to the pulley, as they will pull better and last longer than when the rough or fresh side is next to the pulley. Leather belts usually have arrows stamped on the smooth side indicating the direction the belt should run. The splice is apt to open if run in the wrong direction.

Plan More Equipment

I do my washing and ironing with electricity, use an electric toaster, lights, charge our batteries for car and truck and radio. Would like to have an all electric radio. Some more things we would like to have electricity do for us is run a feed grinder, an electric stove and refrigerator. Also before so many years we would like to have an electric water system.

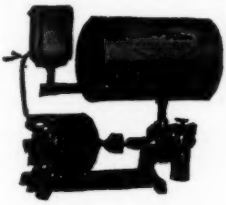
Mrs. Raymond Long,
R. R. 3, Nappanee, Ind.

• • •

Turning the World Up-Side-Down

We have enjoyed an electric iron ever since we had our buildings lighted by electricity. Last year we installed a water system with bath and accessories and a radio and waffle iron. Now we have just installed the most wonderful thing of all for the farm woman (or city woman either for that matter)—an electric washing machine. Electricity is turning the world up-side-down.

Mrs. J. C. Myers,
Route 3, Broadway, Va.



ONLY $58

for the completely automatic water system shown here. Ideal for shallow wells and cisterns where water is within 22 ft. of the surface. Only two moving parts.

Many other sizes and styles of water systems, also septic tanks, water softeners, stock drinking cups, etc. Write for complete descriptive literature.

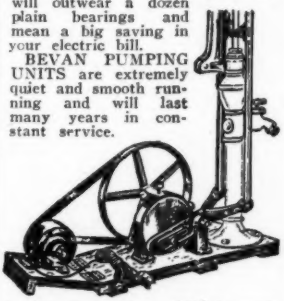
MILWAUKEE AIR POWER PUMP COMPANY
6 Keefe Ave., Milwaukee, Wis.

FRESH WATER

direct from your well at city pressure. No storage tank required. A Bevan Electric Pumping Unit and Automatic Fresh Water System is all you need. Easily attached to any farm pump in a few minutes.

Bevan UNITS are equipped with automobile roller bearings, which will outwear a dozen plain bearings and mean a big saving in your electric bill.

BEVAN PUMPING UNITS are extremely quiet and smooth running and will last many years in constant service.



Write for prices, stating your water lift, also size and stroke of your pump cylinder.

ACME MACHINE CO.
2901 Fremont Ave. So., Minneapolis, Minn.

A 4 Purpose Alarm

1 Burglary
2 Failure of Current
3 Change of Brooder Temperature
4 Fire

Cannot be beaten in any known way; simple to install and economical to operate. Sold under money back guarantee. If your dealer can't supply you, write

SAFEGUARD ALARM CO. Inc.
Council Bluffs, Iowa

NOW—a BIG BURKS Super-Turbine PUMP Model D

Same style and fine performance as the famous smaller Burks Pumps. Three sizes: 600, 800 and 1,000 gallons per hour. Only 1 moving part—wear reduced to smallest possible minimum. You will get practically a lifetime of trouble-free service from a Burks. Write for information and prices.

DECATUR PUMP CO.
Decatur, Illinois

To Our Farm Friends

Only products manufactured by reputable firms will be found in the advertising pages of "Electricity on the Farm." You may buy with assurance that they represent full value.

OAKES ELECTRIC BROODERS

Raise Healthy Chicks This Sure, Easy Way

Here's the latest. It's economical, automatic, fumeless, safe and sure.

Four Sizes—100 to 650 Chicks

Cat. No.	Size	Chick Capac.	Wt.	Each
G-90	22-in.	100 Chicks	15 lbs.	$10.50
G-91	32-in.	250 "	35 lbs.	16.00
G-92	42-in.	425 "	70 lbs.	20.00
G-920	52-in.	650 "	100 lbs.	24.00

Sold by electric appliance and poultry supply dealers or public utility companies. Write us for literature.

Oakes Mfg. Co., 77 D. St., Tipton, Ind.

What Our Readers Say

Pleasure and Satisfaction

Electricity has given us a great deal of pleasure and satisfaction. It enables us to do more of the pleasing things in life because it does most of the drudgery. Yes, we have several pieces of electrical equipment but not enough to fill the needs of the farm. So we are planning to add equipment that will help and aid us to live freer, happier and thus be able to give more of our time, energy and thought to the community in which we live.

Mr. Arle B. Haskell,
Arnold, Neb.

* * *

Likes the Dishwasher

My washing machine, iron and sweeper are my constant helpers and of course I am looking forward to the time when I am able to add many more to my list. I once had the privilege of seeing an electric dishwasher demonstrated, and also the greater privilege of using it while I was helping a lady in her chicken dinner restaurant where she served a three-course dinner to parties of various sizes, from 4 to 200 persons at one time. The dish washer did very excellent work and I have thought since using it how useful it is in a place like that, and also how practical it would be for the average farm home, and I am hoping I may be able to own one some time, for it certainly turns a dreadful task into a pleasure.

Mrs. G. B. Mundy,
R. R. No. 1, Carmel, Ind.

* * *

Ready to Connect Up

Electricity has but very recently been brought out our way, but the wire is in our house and we shall be connected very soon. Already the tone of the entire neighborhood has been lifted from that of a little backwoods farming settlement to an atmosphere of modern homes of many conveniences. Electric brooders, washers and ironers, toasters and even electric stoves are now planned as a matter of fact as heretofore our oil stoves and lamps have been. The greatest convenience which it will bring to me however, will be water in the house, which we plan to have in the near future. And no one who has for years brought water in pails can possibly miss the significance of such a change.

Mrs. Amy G. Forrester,
R. 15, Box 27, Gardiner, Me.

* * *

Saves Work

We appreciate our electric refrigerator. Everything is kept at a uniform temperature and many perishable foods saved that would otherwise be wasted. It, along with the lights, is in use every day. The electric washer is a great improvement over the former way (gasoline motor) and ironing is done in much less time than it took before.

L. A. Stahl,
Findlay, Ohio.

* * *

Lights Mean Most

I am a member of a farmer's family. We have several electrical conveniences. Of course, the electric light means the most to the family in general but we enjoy all the others. Mother especially enjoys her stove, iron and washing machine. Daddy likes his electric milker and separator. I suppose my sister and I enjoy the radio most of all.

Electricity is a wonderful thing for the farmer. The hard life of the farm loses its drudgery when electricity is available.

Miss K. Slaughter,
Martindale, Tex.

* * *

Saves My Rugs

Electricity is saving my rugs from the daily scratch and wear of the broom. My kitchen doesn't require the yearly papering because of less smoke and smudge from range and oil stove. The electric range assures my husband a hot well-cooked meal when I'm away through the day.

Mrs. Harland Lean,
Whitewater, Wisc.